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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,892	03/31/2004	Peter N. Comley	38190/274036	5765

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EXAMINER	
BEVERIDGE, RACHEL E	
ART UNIT	**PAPER NUMBER**
1725	

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/813,892	COMLEY ET AL.	
	Examiner	Art Unit	
	Rachel E. Beveridge	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-14,16-25 and 36-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-14,16-25 and 36-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4, and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weisert et al. (US 4,882,823) in view of Froes et al. (US 5,024,369).

Weisert discloses an invention for diffusion bonding and superplastic forming hollow components such as aircraft engine components (i.e. gas turbine compressor fan blades) (Weisert, col. 1, lines 5-10). Weisert discloses superplastically forming "reactive" metals including titanium (Weisert, col. 3, lines 49-53) and further teaches a preferred material of Ti-6Al-4V superplastically formed at general temperature ranges including 1450°F-1750°F (Weisert, col. 4, lines 15-18). Weisert also teaches diffusion bonding the preferred Ti-6Al-4V material at 25-300 psi for about 30 minutes (Weisert, col. 4, lines 19 and 28). Furthermore, Weisert discloses flat surfaces (14,20) positioned in abutting relation to each other of to the opposite flat sides of the intermediate flat core sheet (24), and teaches subjecting the sheets (12,18,24) to diffusion bonding conditions in appropriate tooling (27) to bond the flat surfaces (14,20) to each other or to the core sheet (24) other than where the stop-off material was applied, thereby forming a diffusion bonded sandwich (29) (Weisert, col. 4, lines 56-64). See figure 2B. Weisert also discloses that superplastic behavior enhances formability under compressive strain

conditions (Weisert, col. 3, lines 47-49). Therefore, the properties and method of invention are so similar with that of the applicant's claimed invention it is necessarily present to arrive at the specified strain rates of claims 11 and 12. However, Weisert lacks disclosure of specific grain sizes for the titanium blank. Froes discloses the production of superplastically formed and diffusion bonded components requiring titanium alloy sheets and foils with uniform and fine grain structure (Froes, col. 2, lines 9-11). Froes also teaches Ti-6Al-4V as a suitable alloy for the disclosed process (Froes, col. 3, lines 55-58) and discloses an average grain size of about 2 to 20 microns (Froes, col. 4, lines 14-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Weisert to include the grain size restraints of Froes in order to permit fabrication of airframe and engine structures with significant cost and weight reduction (Froes, col. 2, lines 6-8).

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weisert et al. (US 4,882,823) and Froes et al. (US 5,024,369) as applied to claim 1 above, and further in view of Stacher (US 5,118,026).

Weisert and Froes lack disclosure of pickling the surface of the workpiece to remove any formed oxide during the superplastic forming step. Stacher discloses the fabrication of titanium aluminide sandwich structures that combines the process of metal joining and superplastic forming (Stacher, col. 3, lines 26-29). Stacher states that titanium is particularly sensitive to oxygen, nitrogen, and water vapor content in the air at elevated temperatures (Stacher, col. 2, lines 33-35). Stacher further teaches that the

surfaces require preparatory cleaning (i.e. pickling) (Stacher, col. 2, lines 45-47) and states that further application of pressure breaks up the surface oxides to present clean surfaces for bonding (Stacher, col. 2, lines 53-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined invention of Weisert and Froes to include the pickling step of Stacher in order to significantly lower the cost, difficulty, and time involved in diffusion bonding and superplastic forming titanium alloy structures (Stacher, col. 3, lines 30-36).

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weisert et al. (US 4,882,823) and Froes et al. (US 5,024,369) as applied to claim 6 above, and further in view of Stacher (US 5,118,026).

With regard to claim 7, Stacher teaches that the surfaces require preparatory cleaning (i.e. pickling) (Stacher, col. 2, lines 45-47) and states that further application of pressure breaks up the surface oxides to present clean surfaces for bonding (Stacher, col. 2, lines 53-55). Furthermore, Weisert's invention includes the same properties and method of the claimed invention. Thus, with the combined invention of Weisert, Froes, and Stacher it is obvious to arrive at the claimed pickling rate. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined invention of Weisert and Froes to include the pickling step of Stacher in order to significantly lower the cost, difficulty, and time involved in diffusion bonding and superplastic forming titanium alloy structures (Stacher, col. 3, lines 30-36).

Regarding claim 8, Stacher teaches that the surfaces require preparatory cleaning (i.e. pickling) (Stacher, col. 2, lines 45-47) and states that further application of pressure breaks up the surface oxides to present clean surfaces for bonding (Stacher, col. 2, lines 53-55). Furthermore, Weisert's invention includes the same properties and method of the claimed invention. Thus, with the combined invention of Weisert, Froes, and Stacher it is obvious to arrive at the claimed amount of oxide to be removed from the surfaces. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined invention of Weisert and Froes to include the pickling step of Stacher in order to remove an accurate amount of oxide to obtain the maximum obtainable joint strength (Stacher, col. 2, lines 50-53).

With respect to claim 9, Stacher teaches that the surfaces require preparatory cleaning (i.e. pickling) (Stacher, col. 2, lines 45-47) and states that further application of pressure breaks up the surface oxides to present clean surfaces for bonding (Stacher, col. 2, lines 53-55). Weisert also discloses the average thickness of the diffusion bonded sandwich between 5 mils (thousands of an inch) and about 150 mils (Weisert, col. 5, lines 6-10). Furthermore, Weisert's invention includes the same properties and method of the claimed invention. Thus, with the combined invention of Weisert, Froes, and Stacher it is obvious to arrive at the claimed thickness. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined invention of Weisert and Froes to include the pickling step of Stacher in order to significantly lower the cost, difficulty, and time involved in diffusion bonding and superplastic forming titanium alloy structures (Stacher, col. 3, lines 30-36), and further

to modify the combined invention of Weisert, Froes, and Stacher to include the thickness of Weisert in order to obtain a uniform mass distribution (thickness) of the sheets and therefore prevent rupturing of the truss core during superplastic forming (Weisert, col. 5, lines 16-19).

Claims 16-25 and 36-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weisert et al. (US 4,882,823) in view of Froes et al. (US 5,024,369) and Stacher (US 5,118,026).

With respect to claim 16-19, 21-25, 36-39 and 41-44, Weisert discloses an invention for diffusion bonding and superplastic forming hollow components such as aircraft engine components (i.e. gas turbine compressor fan blades) (Weisert, col. 1, lines 5-10). Weisert discloses superplastically forming "reactive" metals including titanium (Weisert, col. 3, lines 49-53) and further teaches a preferred material of Ti-6Al-4V superplastically formed at general temperature ranges including 1450°F-1750°F (Weisert, col. 4, lines 15-18). Weisert also teaches diffusion bonding the preferred Ti-6Al-4V material at 25-300 psi for about 30 minutes (Weisert, col. 4, lines 19 and 28). Furthermore, Weisert discloses flat surfaces (14,20) positioned in abutting relation to each other of to the opposite flat sides of the intermediate flat core sheet (24), and teaches subjecting the sheets (12,18,24) to diffusion bonding conditions in appropriate tooling (27) to bond the flat surfaces (14,20) to each other or to the core sheet (24) other than where the stop-off material was applied, thereby forming a diffusion bonded sandwich (29) (Weisert, col. 4, lines 56-64). See figure 2B. Weisert also discloses that

superplastic behavior enhances formability under compressive strain conditions (Weisert, col. 3, lines 47-49). Therefore, the properties and method of invention are so similar with that of the applicant's claimed invention it is necessarily present to arrive at the specified strain rates of claims 22, 23, and 42 and the specified "about 1425°F" of claim 21. However, Weisert lacks disclosure of specific grain sizes for the titanium blank. Froes discloses the production of superplastically formed and diffusion bonded components requiring titanium alloy sheets and foils with uniform and fine grain structure (Froes, col. 2, lines 9-11). Froes also teaches Ti-6Al-4V as a suitable alloy for the disclosed process (Froes, col. 3, lines 55-58) and discloses an average grain size of about 2 to 20 microns (Froes, col. 4, lines 14-15). The combined invention of Weisert and Froes does not disclose pickling the surface of the workpiece to remove any formed oxide during the superplastic forming step. Stacher discloses the fabrication of titanium aluminide sandwich structures that combines the process of metal joining and superplastic forming (Stacher, col. 3, lines 26-29). Stacher states that titanium is particularly sensitive to oxygen, nitrogen, and water vapor content in the air at elevated temperatures (Stacher, col. 2, lines 33-35). Stacher further teaches that the surfaces require preparatory cleaning (i.e. pickling) (Stacher, col. 2, lines 45-47) and states that further application of pressure breaks up the surface oxides to present clean surfaces for bonding (Stacher, col. 2, lines 53-55). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process (including the same properties and method of the claimed invention) of Weisert to include the grain size restraints of Froes in order to permit fabrication of airframe and engine structures

with significant cost and weight reduction (Froes, col. 2, lines 6-8), and further to modify the combined invention of Weisert and Froes to include the pickling step of Stacher in order to remove an accurate amount of oxide to obtain the maximum obtainable joint strength (Stacher, col. 2, lines 50-53) and to significantly lower the cost, difficulty, and time involved in diffusion bonding and superplastic forming titanium alloy structures (Stacher, col. 3, lines 30-36).

With respect to claims 20 and 40, Stacher teaches that the surfaces require preparatory cleaning (i.e. pickling) (Stacher, col. 2, lines 45-47) and states that further application of pressure breaks up the surface oxides to present clean surfaces for bonding (Stacher, col. 2, lines 53-55). Weisert also discloses the average thickness of the diffusion bonded sandwich between 5 mils (thousands of an inch) and about 150 mils (Weisert, col. 5, lines 6-10). Furthermore, Weisert's invention includes the same properties and method of the claimed invention. Thus, with the combined invention of Weisert, Froes, and Stacher it is obvious to arrive at the claimed thickness. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined invention of Weisert, Froes, and Stacher to include the thickness of Weisert in order to obtain a uniform mass distribution (thickness) of the sheets and therefore prevent rupturing of the truss core during superplastic forming (Weisert, col. 5, lines 16-19).

Response to Arguments

Applicant's arguments filed August 1, 2006 have been fully considered but they are not persuasive.

Applicant argues that none of the references cited disclose a method of superplastic forming a refined-grain titanium blank at a temperature of less than 1450°F with respect to claim 1 (page 2). The examiner disagrees. Weisert discloses superplastically forming titanium alloys and further includes Ti-6Al-4V as an example of such an alloy, which applicant continually refers to with respect to the instant refined-grain titanium blank. Furthermore, Weisert discloses about 1450°F; the language of "about 1450°F" disclosed by Weisert necessarily encompasses temperatures below 1450°F. Applicant has not overcome the obviousness rejection and has not shown the criticality of the claimed range in order to overcome the obviousness rejection.

Applicant argues that Froes does not disclose the claimed grain size (page 2), further arguing that one skilled in the art would not have expected the fine-grain material of the blank of claim 1 to have the same properties as the materials disclosed by Froes et al. and that one skilled in the art would have expected the fine-grain material of the blank of claim 1 to be characterized by forming and bonding temperatures and forming strain rates that are different than the properties of the materials disclosed by Froes et al. (page 3). The examiner disagrees. Both Weisert and Froes disclose superplastic forming of titanium alloys including Ti-6Al-4V. Also, Weisert discloses about 1450°F, which encompasses the applicant's instantly claimed temperature range as discussed

about. Therefore, it is necessarily present that the claimed titanium blank will have the same properties as the materials disclosed by Weisert and Froes.

Applicant argues the characterization and reliance on *Titanium Metals Corp. v. Banner,* 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) and asserts that the Federal Circuit has held that "the disclosure of a range... does not constitute a specific disclosure of the endpoints of that range." *Atofina v. Great Lakes Chemical Corp.*, 441 F.3d 991 (Fed. Cir. 2006), 1000 (pages 3-5). The examiner notes that the *Atofina* case is not controlling case law in this matter; rather, the *Titanium Metals Corp.* is the controlling case law with regard to the rejection and arguments of the instant case.

The applicant also argues that the deficiency of Weisert is not cured by Froes or the other cited references, and the applicant submits that independent claims 1, 16, and 36 are allowable, as well as the corresponding dependent claims (page 5). The examiner disagrees and reminds applicant that the obviousness rejection has not been overcome by applicant's allegations, and the applicant has not shown the criticality of the claimed ranges being argued in order to distinguish from the prior art and overcome the obviousness rejection.

Applicant argues that it would not have been obvious to use the thin sheets of rapidly-solidified foil of Froes to form a structure having varying mass distribution as disclosed by Weisert, and further states that both Weisert and Froes do not disclose surface contouring for achieving mass distribution by rapidly-solidified foil that is about 10 to 100 millionths of an inch thick (page 6). The examiner disagrees and points out that the features upon which applicant relies (i.e., surface contouring for achieving mass

distribution by rapidly-solidified foil that is about 10 to 100 millionths of an inch thick) are not recited in the rejected claim(s) (particularly independent claims 1, 16, and 36). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). With further regard to this subject, the applicant argues that this is the reason Weisert and Froes cannot be properly combined (page 6). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Weisert to include the grain size restraints of Froes in order to permit fabrication of airframe and engine structures with significant cost and weight reduction (Froes, col. 2, lines 6-8).

Applicant argues that the suggestion that a patent's specific teaching away from a feature can be disregarded, and reminded the examiner that the Court of Appeals for the Federal Circuit has held that prior art reference should be considered as a whole and portions teaching away from the claimed invention must be considered (pages 6-7). The examiner agrees with the applicant with regard to this matter but also reminds the

applicant that a reference is relevant for all it contains, and a reference's disclosure of a particular claimed features in order to teach away from it, it is still recognized as relevant prior art. Furthermore, the MPEP states, "patents are relevant as prior art for all they contain," more specifically stating,

> "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).
>
> A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied,* 493 U.S. 975 (1989). See also *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed.") MPEP 2123 I.

Applicant argues that dependent claims 4, 17, and 37 recite that the blank has a grain size of about 1 micron and the office action has not identified any reference disclosing the feature (page 7). The examiner disagrees and reminds the applicant of Froes disclosure of about 2-20 microns. The examiner reminds the applicant that the language of "about 2 microns" of the prior art and "about 1.2" or "about 1" of the instant invention are broadly stated and therefore it remains the examiner's position that the amounts in question are so close that is it prima facie obvious that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. v. Banner*, 227 USPQ 773. Furthermore, the applicant has not overcome the obviousness rejection by alleging that the instantly claimed ranges lead to significant differences from

the prior art, and the applicant has not shown the criticality of these ranges with respect to the properties in order to overcome the obviousness rejection over the prior art of record.

Applicant also argues that it is not necessarily present to arrive at the specified strain rates of claims 11 and 12, since "a higher strain rate would require higher pressure and/or result in higher stresses, it would not have been obvious to achieve the claimed strain rates using conventional materials, such as those used in the prior art references (pages 7-8). The examiner disagrees, and once again reminds the applicant that both Weisert and Froes disclose titanium alloys and specifically disclose Ti-6Al-4V.

The applicant argues in connection with claim 1 that none of the cited references disclose the features of forming an alpha case oxide layer that is less than about 0.001 inch thick during superplastic forming and removing the layer by pickling (page 9). In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., forming an alpha case oxide layer that is less than about 0.001 inch thick during superplastic forming and removing the layer by pickling (specifically in claim 1)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, with respect to the argument against the rejection of claim 16 (page 9), the examiner disagrees and reminds the applicant that Stacher discloses titanium's propensity to form oxide layers and further discloses pickling the surface; therefore, in combination with

Weisert and Froes the process is carried out with reasonable motivation under the same conditions and it is obvious to arrive at the claimed invention in order to significantly lower the cost, difficulty, and time involved in diffusion bonding and superplastic forming titanium alloy structures (Stacher, col. 3, lines 30-36).

Applicant argues that the references do not disclose the features of claims 18 and 19 (page 10). The examiner disagrees. The examiner again reminds the applicant that the same pickling process is carried out on titanium blanks (the same properties); therefore, it necessary removes the specified amount of oxide at the specified rate. Furthermore, the applicant has not overcome the obviousness rejection by alleging that the claim limitations are not met by the prior art. The applicant has not shown the criticality of the claimed process properties in order to overcome the obviousness rejection.

The applicant then argues that the prior art does not disclose the superplastic formation at a temperature of "about 1425°F" (page 10). The examiner disagrees. Once again the examiner reminds the applicant that Weisert discloses superplastically forming titanium alloys and further includes Ti-6Al-4V as an example of such an alloy, which applicant continually refers to with respect to the instant refined-grain titanium blank. Furthermore, Weisert discloses about 1450°F; the language of "about 1450°F" disclosed by Weisert necessarily encompasses applicant's language of "about 1425°F." Applicant has not overcome the obviousness rejection and has not shown the criticality of the claimed range in order to overcome the obviousness rejection.

Conclusion

This is a request for continued examination (RCE) of applicant's earlier Application No. 10/813,892. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachel E. Beveridge whose telephone number is 571-272-5169. The examiner can normally be reached on Monday through Friday, 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

reb
September 11, 2006

JONATHAN JOHNSON
PRIMARY EXAMINER